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ABSTRACT

A study of discourse anaphora, anaphora in discourse that is not controlled syntactically, looks at the three types of such anaphora in Chinese: pronominal, nominal, and zero. The analysis focuses on the type of coreference in which the antecedent and the anaphor occur in clauses that occur adjacent to each other in linear order. In such clauses, it is presumed that function is irrelevant. It is argued that this approach is not adequate to describe and predict anaphoric distribution because its inherently linear view of texts does not differentiate between the functions of the parts of the texts. A discourse-structure oriented approach, the rhetorical predicate analysis, is proposed as an alternative. (MSE)

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Discourse Anaphora in Chinese: A Rhetorical Predicate Account

Guobin Wu

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DISCOURSE ANAPHORA IN CHINESE: A RHETORICAL PREDICATE ACCOUNT

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1 Introduction

In this paper I discuss a type of coreference in which an antecedent and an anaphor appear in subject position in two adjacent clauses. This type of coreference may be realised by a pronominal anaphor or a zero anaphor, and the alternation of anaphoric distribution in this position has been claimed to be triggered by sentence type in Li & Thompson (1978) and by the relative position of the subject in the sentence in Liu (1981). I argue that this alternation is determined by the discourse-structure of the sentence and propose a modification of Liu's generalisation governing the alternation of zero and pronominal anaphora for coreferential subjects in terms of rhetorical predicates. I will start by reviewing approaches based on the notion of adjacency clauses (Li & Thompson 1978, Liu 1981), examining some of the problems encountered in such approaches. Then I will propose an alternative approach to these problems with rhetorical predicates.

Before embarking on this undertaking, however, it is necessary to say what I mean by discourse anaphora. Discourse anaphora may be defined, informally, as anaphora in discourse that is not controlled syntactically. Unlike English that only has two types of discourse anaphora (e.g. pronominal and nominal anaphora), Chinese exhibits three types -- pronominal anaphora, nominal anaphora and zero anaphora. Zero anaphors may be seen as a phonetically unrealised type of anaphor that occurs in syntactic positions occupied by an NP. To illustrate the use of these three types of anaphora in Chinese (ZA, PA, NA for short), let us look at the following examples.

(1) a. Xishen tongzhi bujin zhuzhong nongyede jichu zuoyong
Xishen comrade not-only stressed agriculture basic role

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b. 0 tongshi ye shifen zhongshi gongyede
meanwhile also much pay-attention-to industry
zhudao zuoyong
leading role
"Comrade Xishen not only paid much attention to the basic role of agriculture, but at the same time attached much importance to the leading role of industry."

(2) a. Zhou Enlai tongzhi shi yiwei ji you geming
Comrade Zhou Enlai is a both have revolution
danlue you you qiushi jingshen de gongchanzhuyizhe
courage and have pragmatic spirit Communist

b. Ta zai meiyi zhongda douzhengzhong shanyu
he in every major struggle skilfully
ba liangzhe jiehcqilai
get both combined
'Comrade Zhou Enlai was a Communist with both revolutionary courage and a pragmatic attitude. He was skilful at combining these two in every major struggle.'

(3) a. Yijiuyiliunian, Li Guangqian jing Zhuang Xiquan de
in 1916, Li Guangqian through Zhuang Xiquan's
tuijian wei Chen Jiageng pinyong
recommendation by Chen Jiageng engage

b. Chen Jiageng powei xinshang Li Guangqian de
Chen Jiageng very appreciate Li Guangqian's
nengli he caihua
ability and talent

c. 0 bujiu jiu tisheng ta wei jingli
soon then promote him as manager
"In 1916, recommended by Zhuang Xiquan, Li Guangqian, was appointed by Chen Jiageng. As Chen Jiageng very much appreciated Li Guangqian's ability and talent, he promoted him manager before long.'

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Passage 1 is an instance of ZA, where the underlined antecedent (*Xishen tongzhi*) occurs in subject position of the first clause and its next mention occurs in subject position of the following clause, and takes the form of a zero pronoun. Passage 2 demonstrates the use of PA, where a pronoun (*ta*) appears in subject position of the second clause, coreferential with the subject of the first clause. Finally, in (3) the antecedent (*Chen Jiageng*) appears as the object of the preposition *wei* in the first clause and the anaphor occupies the subject slot of the second clause, where it is realised as a noun.

As mentioned earlier, this paper focuses on the type of coreference in which the antecedent and the anaphor occur in so-called 'adjacency clauses'. Adjacency clauses, as is implied by their name, involve clauses that occur adjacent to one another in a linear order. For an approach using adjacency clauses as an analytical tool, functional relationships among the clauses are presumably irrelevant; discourse is seen as composed of an undifferentiated string of clauses which follow one another in time/space but do not form larger units that could perform communicative functions in relation to one another, whether a clause is an aside about a character, or a piece of evidence to support an assertion is irrelevant. I will limit my attention to the discussion of coreferential subjects of adjacent clauses for the following reasons. It might appear that, within a sequence which involves two or more clauses, a linear approach to anaphora would be an adequate one. It is therefore apparent that it will be of more theoretical and methodological significance if an adjacency clause approach can be shown to be inadequate where one might suppose it to be most relevant.

2 Description with adjacency clauses

Li & Thompson (1978) and Liu (1981), which deal with zero anaphora in Chinese, are analyses based on adjacency clauses. Thus, to demonstrate how these approaches work, we will start by examining their proposals for predicting the distribution of anaphors in adjacent clauses.

Li & Thompson attempt to characterise ZA on the basis of sentence type, claiming that ZA is obligatory in adverbial sentences, but optional in correlative sentences A correlative sentence in Chinese

has a structure involving two clauses each of which contains a correlative marker, e.g. the boldfaced items *yinwei...suoyi* ('because...therefore') in example 5. To illustrate how this analysis works, consider the following.

(4) a. Zhangsan zoule yihou
Zhangsan leave after

b. 0/*ta jiu mei huilai guo
he then not come-back ever
'After Zhangsan left, he has never returned.'

(5) a. Yinwei Lao Li hen mang
because Lao Li very busy

b. suoyi 0/ta bu neng lai kan ni
therefore he not can come see you
'Because Lao Li is very busy, he can't come to see you."

In (4), since it involves a sentence containing an adverbial clause, ZA is required and in (5), since it is a correlative sentence, ZA is optional and PA is possible.

This analysis, however, makes incorrect predictions about anaphoric distribution in correlative sentences like (6). In this example the correlative markers are *yi...jiu* ('as soon as'), where ZA is obligatory.

(6) a. Xiao Ming yi jiandao wo
Xiao Ming as-soon-as see me

b. 0 jiu xiang wo zhao shou
then to me wave hands
'As soon as Xiao Ming saw me, he waved at me."

To solve this problem, Liu (1981) makes a proposal that is based on the position of the subject relative to the correlative marker in each clause. His proposal is as follows

(7) Zero anaphor is obligatory in parallel structures which are subject-initial; otherwise it is optional. (In parallel structures which are not subject-initial, the pronoun is preferred.)

Liu formulates his generalisation in terms of 'parallel structures' to cover adverbial and co-ordinate constructions as well as correlative constructions. Thus, in (4) ZA is required because of the initial position of the subjects in the adjacent clauses, whereas in (5) ZA is optional because of the non-initial position of the subjects (that is, they are preceded by correlative markers *yinwei...suoyi*), and in (6) ZA is obligatory because the subjects of the clauses are clause-initial (in other words they precede the correlative markers). Another instance of correlative sentence is given in (8) in which ZA is required because the coreferential subjects are clause-initial.

(8) a. Xishen tongzhi bujin zhuzhong nongyede jichu zuoyong
Xishen comrade not-only stressed agriculture basic role

b. 0 tongshi ye shifen zhongshi gongyede
meanwhile also much pay-attention-to industry
zhudao zuoyong
leading role
"Comrade Xishen not only paid much attention to the basic role of agriculture, but at the same time attached much importance to the leading role of industry."

Liu's proposal that assumes the notion of adjacency clauses appears to be descriptively adequate for the data presented above, but it runs into trouble with the 'adjacent clauses' in (9).

(9) a. Zhou Enlai tongzhi shi yiwei ji you geming
Comrade Zhou Enlai is a both have revolution
danlue you you qiushi jingshen de gongchanzhuyizhe
courage and have pragmatic spirit Communist

b. Ta zai meiyi zhongda douzhengzhong shanyu
he in every major struggle skilfully
ba liangzhe jieheqilai
get both combined
'Comrade Zhou Enlai was a Communist with both revolutionary courage and a pragmatic attitude. He was skilful at combining these two in every major struggle.'

In this example, the subject of the second clause is coreferential with the subject of the preceding clause, and both subjects occur clause-initially. According to Liu's generalisation, ZA should have been expected for the coreferential subject of the second clause. However, contrary to Liu's prediction, PA occurs.

Admittedly, Liu does not explicitly deal with the kind of structure as presented in (9), but as he defines parallel structures in broad terms, by either the position of the correlative marker relative to the subject or the position of the subject with respect to the clause (i.e. whether subject-initial or not), the type of structure in (9), which exhibits a pattern in which the coreferential subjects occur clause-initially, should be taken to be covered by his proposal. If this is the case, then it poses counter-evidence for Liu's account, or at least it shows an inadequacy in it. In the 20 newspaper articles used as the data for this study, 16% (34/212) of sentence-initial coreferential subjects in adjacent clauses are realised by PA. This clearly poses problems for accounts based on adjacent clause analysis in general as well as for Liu's account in particular.

A close examination of these 34 cases in which PA, as against ZA, occurs shows a typical assertion-elaboration relationship between the adjacent clauses. That is, the first clause contains an assertion and the following clause(s) provides elaborative material or background information in support of the assertion, as illustrated in (9) above. We may look at another example.

(10) a. Lin Kexiu hai kuai tiyu
Lin Kexiu besides love sport

b. Ta ceng shi sheng juzhongduide yundongyuan
he once is province lift-weight player
bing qudeguo hao chengji
and achieve good records
"Lin Kexiu is particularly keen on sports. He used to be a member of the provincial weight-lifting team and achieved good scores."

In this example, the first clause makes an assertion, and the succeeding clause gives evidence for the assertion made in the preceding clause. Notice that PA occurs in the second clause where, according to Liu's proposal, ZA would have been expected.

The discourse structure of (9) and (10) is apparently different from the structure of the passages in (4) (5) (6) and (8), and this difference appears to have dramatic consequences for anaphora. However, with an adjacency clause approach, differences in discourse structure are ignored. Consequently, it makes wrong predictions as regards the type of anaphora in (9) and (10).

This supports the contention that any proper treatment of anaphora must seek an understanding of the structural organisation of the discourse in which the anaphora occurs. In the present case it has to capture and account for the kind of discourse presented in (9) and (10) as well as those discussed earlier. As the adjacency clause approach apparently fails here we then need an alternative model that can do the task.

In what follows, I want to briefly outline an approach based on discourse structure, the Rhetorical Predicate Analysis. (Because of limited space, I will only state the most essential points and leave out most of the details.)

3 Rhetorical predicate analysis

The basic assumption underlying this approach is that texts are not merely strings of clauses but are instead hierarchically organised groups of clauses which bear various informational and interactional relations to one another. Fox (1984) adopts a similar view. Following Grimes (1975), I use rhetorical predicates to describe the various relations of this type that hold between parts of a text or discourse. Rhetorical predicates take propositions as their arguments. A proposition is a more

abstract notion than a clause or sentence, though it is usually expressed by such syntactic forms. It is intended to represent the smallest unit that stands in informational and/or interactional relationships with other parts of the text. This framework thus has in its apparatus a basic unit, the proposition, and a group of rhetorical predicates which describe the various text structures into which the propositions enter.

The notion of rhetorical predicates as the means that a speaker has for describing and organising information is related to Rhetoric, and goes back to Aristotle (Winterowd, 1975). In Aristotle's day, Rhetoric is viewed as an essential means of achieving one's communicative goal, either in a public speech or a written discourse, and Aristotle describes the means available to a speaker in terms of topics of invention, which include definition, comparison, analogy, cause, effect, and consequence, etc.

In more recent years, Fuller (1959) describes rhetorical predicates as explicit organising relations used in discourse. He claims that the study and translation of texts (in his case, the Bible) must proceed from an understanding of the relationships holding between the structural units of texts. The relations Fuller identifies include series, alternative, general-specific, comparison, cause-effect, inference, etc.

Grimes (1975) deals with the same phenomenon using a different term, rhetorical predicate, to describe the semantic/structural relations between propositions in discourse in an attempt to develop a theory of discourse. According to Grimes, a proper theory of discourse must have a component of rhetorical predicates. His set of rhetorical predicates includes alternative, response, explanation, evidence, analogy and so on. Grimes claims that the predicates are recursive and can be used to identify the structure of text at any level (e.g. proposition, sentence or paragraph), but he does not show how this is done.

Taking as a starting point the descriptive taxonomies proposed by Grimes (and others). These include Beckman & Callow (1974), Longacre (1976) and Hobbs (1979). Mann & Thompson (1983) present an account of relational predicates in discourse in an attempt to provide the first steps for developing a theory of discourse. What marks their work as different from the previous studies including that of Grimes is their claim that rhetorical predicates are not just limited to organisational aspects of texts but convey essential subject matter.

They claim that rhetorical predicates are 'basic', and involved in communicative 'acts' in the sense of Searle's speech acts and thus vital to the way a text functions. The set of relational predicates they propose however does not differ very much to that of Grimes.

Rhetorical predicates have also been used as an aid in anaphora resolution, for example, Hobbs (1978), Lockman (1978), and Fox (1984). Fox investigates the distribution of anaphora in discourse and uses rhetorical predicates as an aid to that end. Fox's set of rhetorical structure includes condition, circumstance, list, narrate, reason, contrast, purpose, and issue. Her work shows that anaphora is determined to a great extent by the hierarchical structure of a discourse and that structure is described and represented with rhetorical predicates.

The group of rhetorical predicates I am proposing for this paper is summarised in a tabular form in (11).

(11)

Name of Predicate	Internal Structure
(Adjoining Predicates)	
Issue	One nucleus, one or more adjuncts
Circumstance	One nucleus, one adjunct
Condition	One nucleus, one adjunct
Concession	One nucleus, one adjunct
Purpose	One nucleus, one adjunct
Reason	One nucleus, one adjunct
Response	One nucleus, one adjunct
(Conjoining Predicates)	
Succession	Two or more nuclei, no adjuncts
Joint	Two or more nuclei, no adjuncts
Contrast	Two or more nuclei, no adjuncts
Opposition	Two nuclei, no adjuncts
Alternation	Two or more nuclei, no adjuncts

Table 1: Rhetorical predicates used in this study

I take a similar position to Li & Thompson (1983) who describe their predicates as "members of a small set of general, highly recurrent relational predicates". It should be noted that although researchers appear

to come up with differing proposals for predicates, the differences mainly lie in the use of different terms for similar rhetorical/semantic relations. And although they differ in the number of predicates they propose, they seem to agree that their predicates are members of a finite set. The set of rhetorical predicates being proposed here appears to be small, but it seems reasonably sufficient for the structural relations exhibited in the texts used as data for this study, though I do not believe that the list in Table 1 is necessarily exhaustive.

In order to make such an analysis we need to decide on the function of propositions in texts and assign predicates to them. Generally speaking, pragmatics, world knowledge as well as linguistic competence are all involved in predicate assignment. Predicate assignment is also facilitated by certain surface linguistic phenomena, such as what may be called cue words, e.g. in English "therefore, so, anyway, or because". But since there are no hard and fast rules for predicate assignment (on the part of the reader), the analysis is to some extent subjective, and could have somewhat different results if done by someone else. This could affect the interpretation of discourse structure and consequently the anaphoric patterning in a discourse.

It should be noted that, rhetorical predicates fall into two major groups, according to the structural/semantic relationship which hold between their arguments (propositions): conjoining and adjoining, as specified in the Table. With a conjoining predicate, the arguments of the predicate are of equal status, in other words, they are all nuclei, while the arguments of an adjoining predicate are structurally unequal: one of them is the nucleus and the other(s) adjunct(s). In the following I present some examples to illustrate how these two classes of rhetorical predicates are used to describe the structural relationships between clauses/propositions in discourse.

(12) a. Youyu Xu Fumin zai Ao qijian duoci xiang
as Xu Fumin in Australia period several-times to
Huang Xiansheng qing-shu-zhong-huai
Mr Huang express-heart

b. Huang Xiansheng juexin tong zuguode zhewei
Mr Huang determine with motherland this
you-zhi-qingnian jiecheng hezuo huoban
ambitious-youth become co-operating partner
'As Xu Fumin talked to Mr Huang about his plans and ambitions without reserve several times during his stay in Australia, Mr Huang made up his mind to co-operate with this ambitious young man from the motherland.'

(13) a. Mei Guangda bingbujinjin shi yige shangren
Mei Guangda not-only is a businessman

b. erqie haishi yiwei chusede shehui
but also-is a prominent social
huodongjia, cishanjia
activist philanthropist
'Mei Guangda was not only a businessman, but he was also a prominent social activist and philanthropist.'

Passage (12) is an instance of an adjoining predicate (Reason), in which proposition (a) is an adjunct that gives the reason for the statement in proposition (b) which is the nucleus. Passage (13) is a case of conjoining predicate (Joint), where the two propositions are equal partners. The Issue predicate is a member of the class of adjoining predicates and exemplifications of it are (9) and (10) (repeated as (14) below).

(14) a. Lin Kexiu hai kuai tiyu
Lin Kexiu besides love sport

b. Ta ceng shi sheng juzhongduide yundongyuan
he once is province lift-weight player
bing qudeguo hao chengji
and achieve good records
"Lin Kexiu is particularly keen on sports. He used to be a member of the provincial weight-lifting team and achieved good scores."

In (14) the first proposition, the nucleus, presents a claim and the following proposition, the adjunct, provides supporting, background material for the claim in the first proposition.

An important feature of rhetorical predicate structure is its recursiveness. This feature is not present in the data for this study since they only involve two or three adjacent clauses. That is, any argument of a rhetorical predicate, whether it is the nucleus or an adjunct, can itself be realised recursively by an embedded rhetorical predicate. Such recurrence of rhetorical predicates is built up from lower level to higher level and eventually results in a hierarchical organisation for the whole discourse. The rhetorical predicate analysis thus allows an account of anaphora in discourse which exploits the hierarchical structure of the discourse that otherwise appears simply as a string of clauses. A rhetorical approach like the one being proposed here will be able to offer a better account of anaphora occurring in a discourse displaying a highly complex structure than an adjacent clause approach. But if we can show that a rhetorical approach is both descriptively and explanatorily more powerful even in the context of two or more adjacent clauses, we are then achieving something extra.

Let us now revisit some of our previous data from the perspective of rhetorical predicate analysis. The passages in (9) and (10), as analysed earlier, involve an Issue predicate whose nucleus (proposition a) contains an assertion, with its adjunct (proposition b) elaborating on the assertion. The passages in (4), (5), (6) and (8) involve various non-Issue predicates. For example, Passage 4 is an instance of the Circumstance predicate, in which the nucleus (proposition b) states the situation, and the adjunct (proposition a) states the circumstances under which the situation occurs. In passage 5 we have a Reason predicate. Here, the first proposition is the adjunct that gives a reason for the statement which is made in the second proposition that is the nucleus. Finally, Passage 8 offers an instance of a Joint predicate (one of the conjoining predicates) whose arguments are related in a co-ordinate fashion.

In the examples presented thus far, those which conform to Liu's generalisation are instances of non-Issue predicates. Those which violate Liu's generalisation are instances of Issue predicates. What then is the

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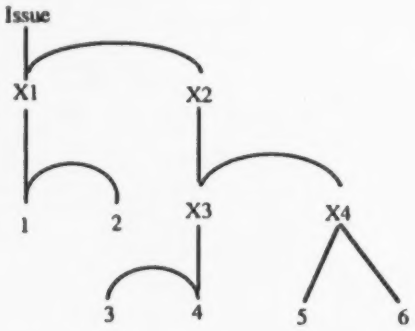
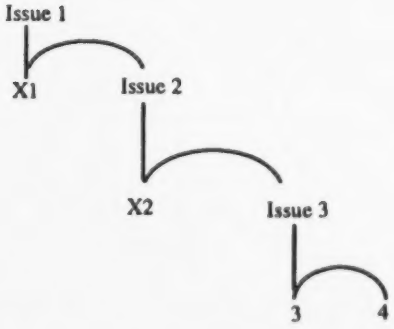
motivation for the pronominal realisation in Issue predicates since no ambiguity whatever would arise if ZA was used?

A possible explanation for this pronominalisation may lie in a unique property of Issue predicates. Issue predicates occur at various levels of discourse organisation and are used very commonly in the higher-level organisation of discourse. That is to say, the highest-level of discourse organisation usually consists of the nucleus and the adjunct(s) of an Issue predicate, each of which may in its turn be realised by a complex system of lower-level predicates. This may be better illustrated by diagrams in (15).

(15) a.



b.



In the first diagram, the nucleus of the Issue predicate is realised by the node X1 (which can itself be any predicate) with arguments consisting of propositions 1 and 2; the adjunct is realised by the X2 node which itself is realised by predicates X3 and X4 with propositions 3 through 6 as their respective arguments. Diagram 2 demonstrates the occurrence of the Issue predicate at different levels of discourse organisation. That is, Issue 1 occurs at the highest level of discourse, Issue 2 at the intermediate level, and Issue 3 at the lowest level. The relationships between them are that Issue 2 realises the adjunct of Issue 1 and Issue 3 realises the adjunct of Issue 2. The nucleus of Issue 1 and 2 may be a terminal proposition or an embedded rhetorical predicate and the nucleus of Issue 3 is a terminal proposition, as also is its adjunct.

What is crucial here is that different levels of discourse organisation seem to trigger the use of different forms of anaphora. According to the findings from one of my on-going investigations, in a discourse structure like that of (15.2) the adjunct of Issue 1 is associated with the use of NA, the adjunct of Issue 2 is associated with the use of PA, and the adjunct of Issue 3 is also associated with the use of PA. The type of discourse structure I examine in this study involves the lowest level Issue predicate (i.e. Issue 3). As shown in the diagrams above, adjuncts of Issue predicates tend to have internal structures of differing complexity, and as a result they form a more or less single unit modifying the Issue nucleus. A consequence of this is that a more explicit linguistic form (e.g. PA) is needed to mark such a unit, thus ruling out the possibility of ZA occurrence. The relatively independent status of the issue adjunct thus appears to operate as a trigger for the pronominalisation in examples like (9) and (10).

This analysis seems to suggest that, in terms of their effect on anaphora, there is a basic division of rhetorical predicates into Issue and non-Issue predicates. With this sub-categorisation, we are able to say that (lower-level) Issue predicates require the use of PA while non-Issue predicates require the use of ZA for the coreferential subjects in their adjuncts. To test this claim, I examined 20 newspaper articles and the results from the data analysis offer strong support to the claim. The findings are presented in the table in (16).

(16)

Type	ZA		PA		Total
Issue	2	5%	34	95%	36
	1%		85%		7%
Non-Issue	170	97%	6	3%	176
	99%		15%		83%
Total	172		40		212

Table 2: Distribution of Anaphors in Issue vs. Non-Issue Predicates

Table 2 shows that 95% of Issue predicates are correlated with the use of PA in their adjuncts while only 5% are correlated with the use of ZA. Of non-Issue predicates, 97% are associated with the use of ZA and 3% with the use of PA. Zero anaphora in non-Issue predicates occurs where the two adjacent clauses are subject-initial, whereas pronominal anaphora occurs where the coreferential subject(s) are preceded by conjunctions or correlative markers.

The following give further exemplification.

(17) a. Zhou Enlai tongzhi shi yige yanyuliji de ren
Comrade Zhou Enlai is a strict-on self person

b. ta dui beiren yaoqiu bijiao kuan dui ziji ze hen yan
he to others demand relative kind to self yet very strict
"Comrade Zhou Enlai was a very self-disciplined person. He was not very strict with others but very strict with himself."

(18) a. Li Xiaolong ye you lieshi
Li Xiaolong also have weak points

b. 0 shencai aixiao zuoqi dongzuo lai bushuzhan
body short-little make movement not smooth
"Li Xiaolong also has weak points. Being physically short his dance movements are not very smooth."

(17) is made up of an Issue predicate, in which proposition (a) is the nucleus presenting the assertion and proposition (b) is an adjunct providing elaboration for the assertion made in (1). As predicted by our analysis, the coreferential subject in (b) takes the form of PA. (18) is one of the few realisations of zero anaphora with an Issue predicate. For the moment I do not have a satisfactory explanation of this example. In this example the second clause may be said to contain a subject (*shenti*, 'body') and thus what is being omitted is the topic (*Li Xiaolong*). The occurrence of the subject in (b) may have to do with the zero mention of the topic, but to say that as we are dealing with a discourse phenomenon, any generalisations or rules made for it cannot be as rigid as syntactic rules in sentence grammar, and one has to allow for exceptions. The exceptions in the present case, in my view, do not invalidate the generalisation but instead they are indications of the language user's freedom or preference in choosing linguistic devices. Having said this, there appear to be a common feature shared by the ZA occurrences in Issue predicates in my data, namely the nucleus tends to be a short simple clause (as does its adjunct). I am, however, not claiming that the simplicity or the shortness of the nucleus and/or its adjunct operates as a trigger for the ZA encoding, since in most of such contexts, PA occurs, as in (10) above.

We will look at some other examples.

(19) a. Gao Juefu zai Xianggang Daxue Wenxueyuan
Gao Juefu in Hong Kong University Arts Faculty
Jiaoyuxi dushu qijian
Education Department study time

b. 0 jiu dui xinlixue chanshengle xingqu
then in psychology have interest
'Gao Juefu became interested in psychology when he was a student at the Department of Education in the Arts Faculty of the University of Hong Kong.'

(20) a. Youyu Xiong Zaiding yizai yaoqiu,
because Xiong Zaiding repeatedly request

b. ta yu siyue chuyuan
she in April leave-hospital
'Because of her repeated request Xiong Zaiding was allowed to leave the hospital.'

(19) and (20) are both realised by a non-Issue predicate, Circumstance in the former and Reason in the latter. In (19) the antecedent (Gao Juefu) occurs in the adjunct (proposition 1) and the anaphor occurs in the nucleus (proposition 2). According to our account ZA is called for. (20) differs from (19) in that while in (19) the antecedent and the anaphor both occur clause-initially the antecedent in (20) is preceded by a conjunction (Youyu), which results in the pronominalisation in (2). In fact, (20) is one of the six pronominal occurrences as against 170 cases of zero realisations in non-Issue predicates.

On the basis of the data analysis above, a modification of Liu's generalisation governing the alternation of zero and pronominal anaphora for coreferential subjects of adjacent clauses in terms of rhetorical predicates is stated as follows:

(21) PA is used for a subject anaphor coreferential with a subject antecedent in Issue predicates, and ZA is used in non-Issue predicates that are subject-initial; otherwise it is optional (and PA is preferred).

4 Conclusion

To conclude, in this paper I have discussed a type of coreference in which an antecedent and anaphor appear in subject position in two adjacent clauses. I have argued that the adjacency clause approach is not adequate to describe and predict anaphoric distribution because its inherently linear view of texts does not differentiate between the function of the parts of the texts. To tackle this problem, I have proposed a discourse-structure oriented approach, the rhetorical predicate analysis, which I have shown to be capable of capturing and describing various different structural and semantic relationships holding between parts of a text that apparently have consequences for the anaphoric distribution in the text. I have demonstrated that this structural approach provides a basis for correctly predicting anaphoric distribution in

examples limited to two adjacent clauses in terms of the rhetorical predicates involved. This shows that in such examples where the hierarchical approach might be expected to have the least to say and the linear approach to be most relevant, the former can actually do a better job than the latter. The advantages of this approach are still more apparent in those contexts where an anaphor (PA or ZA) has for its antecedent an element that is not available in the immediately preceding clause but separated by several clauses or even a large portion of text, which is certainly beyond the scope of any adjacency clause approach.

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